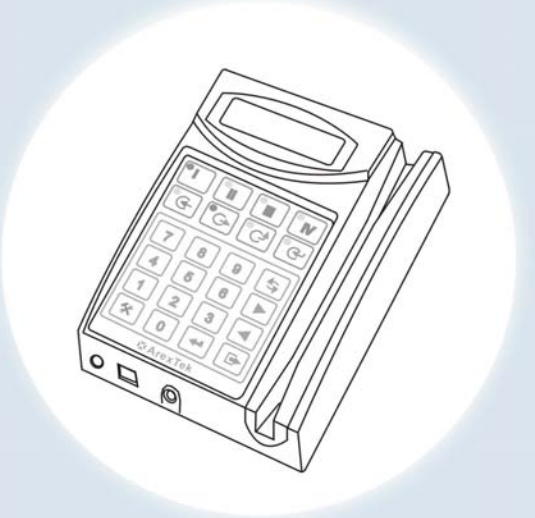
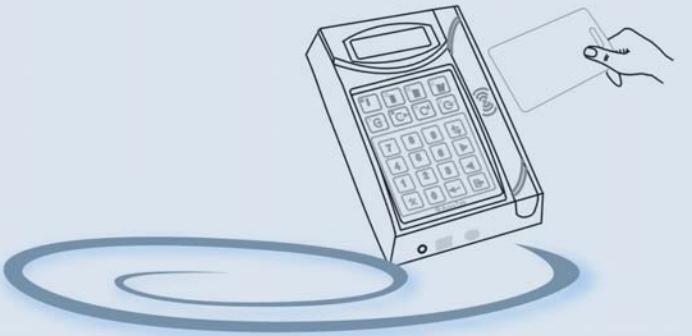
TR3800 Time-Recorder & Access Control

TR3800 User's Manual

Communication Wizard / Ver. 6.9





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Chapter 1 General Information

1.1 Introduction

TR3800 is a multi-function time recorder combining the cutting edge proximity (RF), bar code and magstripe technology. The TR3800 possess with superior reading device, STN backlight display and versatile a mulit IO (input & output) outlet. The TR3800 is not only for storing employee attendance records, but also serves as a powerful access control system.

Preventing from pleonasm, we take the TR3800B-128 (bar code type) Time Recorder for instance in the following chapters. Except the method of using card, the proximity and magstripe types are mostly the same in function and operation. If necessary, we will take example to clarify the difference between them. Henceforth, we call the TR3800 Time-Recorders as *"TR3800"*, "*Time-Recorde*r", "*the machine*" or "*the unit*".

TR3800's Features:

1. Easy, fast and error-free data collection for personnel attendance-employee's ID number, year, date, time, shift and status of entry.
2. Embeds the high-voltage surge protection circuit.
3. 10 years of data preservation after a loss of main power. Normally work is available for 4.5 hours by using UPS battery.
4. A 128KB double-low-power consumption memory under dymatic mode. Its storage capacity is approximately 10,000 records.
5. Records-rescuing function that allows to recall the deleted records within 180 days.
6. The ability of shift-management provides 4 shifts, out and return keys.
7. The real-time (on line) function allows the computer to monitor 20,000 persons. And save into the hard disk in synchronous.
8. Auto detect serial port and auto-configuration system settings -- the progress of computer technology that bring much convience, but the hardware and peripheral devices are getting more complicated. The TR3800 provides a auto-searching function to dectect computer's serial ports and save to setting value.
9. Offers flexible record format that suit the output pattern to diversity of personnel management application systems.
10. An external alarm system provides 112 alarms (16 alarms for each day a week) , the definable duration from 1 to 99 second(s).
11. Embeds 2,000 perssons security and 3-level access control.
12. Supports full function TCP/IP LAN links – Local LAN, WAN, IntraNet and InterNet

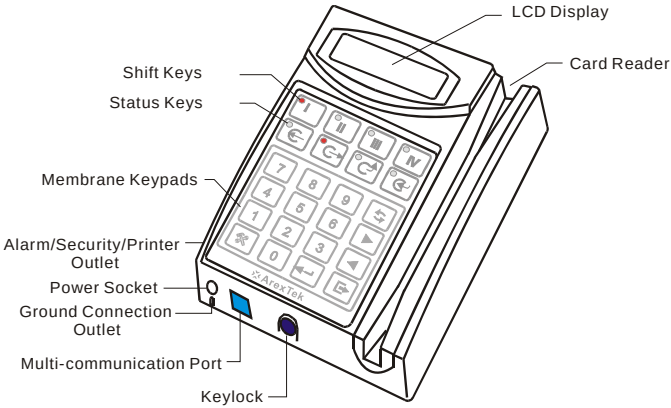
1.2 Hardware Specifications

Housing	ABS+PC+SyntheticFiber
Display	STN back-light LCD (16x2 characters)
Keypad	24-key-membrane keypad (water-resistant)
Memory	128K low power consumption SRAM
Calendar	1950 ~ 2999
Clock	+- 15 seconds/per month
Battery	Ni-Mh 4.8V Recharageable/1700mA
	Li 3V CR2032H /220mA
Card Reader	Bar code sloter/code 39
	Magstripe sloter/ISO Trk1,2,3 (200oe,,4000oe)
	EM 125K/Wiegand RF 10-digit and 8-digit
	Mifare 13.56Mhz (optional)
External Alarm	1-99 second(s) , 3Amp/250AC
Access Controller	1-99 second(s) , 3Amp/250AC
Comm. Model	TCP/IP – LAN, WAN
	RS232
	Multi-Drops(RS485)
	Modem (V.32, V.34, V34+, V90)
	Bluetooth Wireless (optional)
Comm. Speed	2400,9600,19200,38400 bps
Cable	232-30 (for RS232)
	MDP-30 (for RS485 multi-drops)
	MOD-30 (for Modem)
Power Consumption	Normal mode 9V/350mA --3.15W
	UPS mode 4.8V/320mA --1.54W

Temperature	Operation: -10 ~ 50 degrees Celsius
	Storage : -40 ~ 70 degrees Celsius
Humidity	Operation: 10 ~ 95 %
	Storage : 5 ~ 95 %
Sea Level	-304.8 ~ 3657.6 meter
Dimension	114mm(X) x 165mm(Y) X 44mm(Z)
Weight	Net : 0.5Kg
	Gross : 1.0Kg (accessories and package included)

1.3 Appearance Illustration And Status Keys

Appearance Illustration



Status Keys

Chapter 2 Hardware Installation

The package of TR3800 includes the following units, please check them before installation.

1. TR3800 Time-Recorder
2. Two Keys
3. Power Adaptor (100-240V AC / 9V 1200mA DC)
4. TR3800 CD (for Communication Wizard software and user's manual)
5. Setup Card
6. 232-30 Cable
7. MDP-30 Cable
8. MOD-30 Cable

The package of model TR3800xN(TCP/IP embedded) don't include above 3 cables (item 6,7,8)

2.1 Hardware Requirements

The TR3800 is designed for using with IBM PC/AT PC (with Pentium, Pentium2, Pentium3 , Pentium4 or above processor) and other compatible computers under Microsoft Windows(95, 98 ,98se, Me, NT, 2000, *XP, Vista, 7*) system. Besides the TR3800 Time-Recorder, be sure that you have the necessary equipments as follows:

TCP/IP LAN Link – TCP/IP embedded Model(TR3800xN)

1. A 10/100M Lan device with RJ45 connector in the computer

TCP/IP LAN Link – for Multi Units or Single Unit

1. A 10/100M Lan device with RJ45 connector in the computer
2. An E-P132 TCP/IP convertor (optional)
3. A 232-30 or MDP-30 cable

RS232 – for Single Unit

1. A serial port (Com1 ~ Com10) in the computer
2. A 232-30 cable --- can be extended to 15M by standard DB9P cable(one end with male connector, the other end with femal connector)

Multi-drops – for Multi Units or Single Unit (above 15M)

1. A serial port(Com1~Com10) in the computer
2. An A52(232-485 ADDC) signal converter (optional)
3. A MDP-30 cable --- can be extended up to 1,200M via 24AWG cable

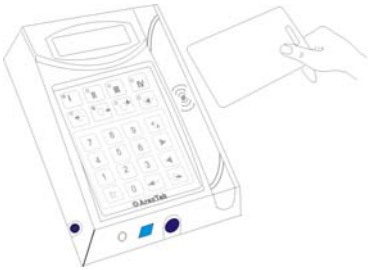
Modem Link – for Single Unit

1. A serial port(Com1~Com10) in the computer
2. Two sets of Modem(one for computer, the other for TR3800)
3. A MOD-30 cable

* IBM is the trademark of International Business Machine Corporation
* Pentium are registered by Intel Corporation
* Windows 98, Me, NT4, 2000, XP, Vista, Win7 are registered by Microsoft Corporation

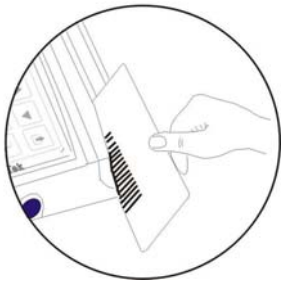
2.2 How To Read The ID Card

Reading Proximity Card



1. Take the card approach to the machine (8-15cm)
2. A sound of beep and ID number showed on display

Reading Bar Code Card/ Magstripe Card



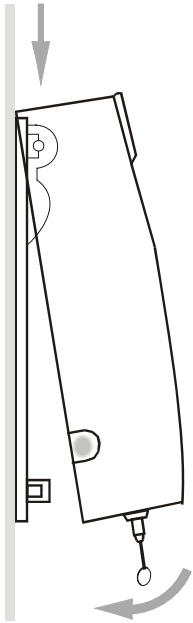
1. Keep the bar code toward the keypad(the other side for magstripe card）
2. Slide the card from top to bottom smoothly
3. A sound of beep and ID number showed on display

2.3 How To Settle The Machine

Sit On The Counter

1. Unplug the power cord
2. Outspread the stands

Mount On The Wall



1. Unplug the power cord
2. Press and turn the key in right-hand (unlock) to separate the cover from bottom
3. Mount the bottom on the wall
4. Unite the cover with bottom
5. Turn the key in left-hand (lock it. If not turn to the correct angel, the key cannot be removed)
6. Remove the key

2.4 Internal Connectors of TR3800

Opening the TR3800, it appears various kinds of connectors, all of these connectors are designed under anti-fool notion and all connectors marked the function with text description as well. All mistaken connections will not cause hardware damage, but it might cause communication failed.

VR1 : LCD Contrast Adjuster

S1 : UPS Switch

T1 : External Alarm Terminal

T2 : Access Controller Terminal

D23 : Power LED

D34 : LAN-Linked LED

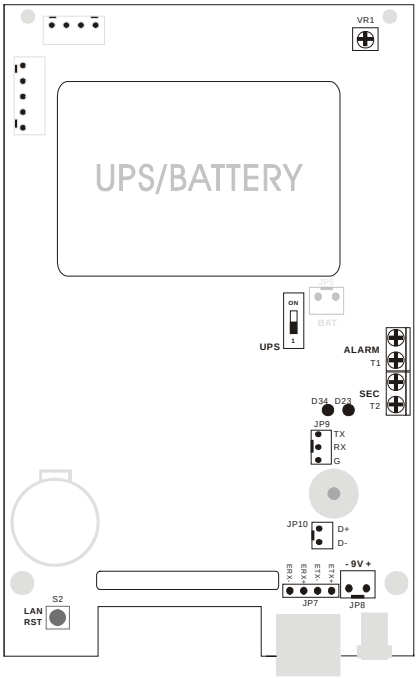
JP9 : 2nd RS232 Connector

JP10 : 2nd Multi-drops Connector

JP8 : 2nd DC Power Connector

JP7 : 2nd LAN Pin

S2 : LAN Reset



* Items of D34,JP7 and S2 are workable for model TR3800xN only.

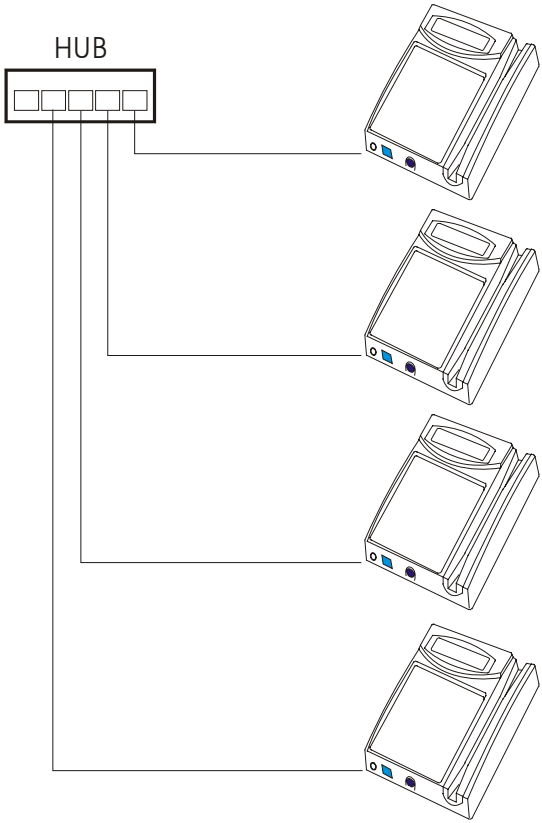
2.5 How To Set Machine ID

When many machines link on the line together that need to set the machine's ID for unique identity ("001" is factory setting). *Any machine's ID can not be equal to any of others* ,otherwise link-error!

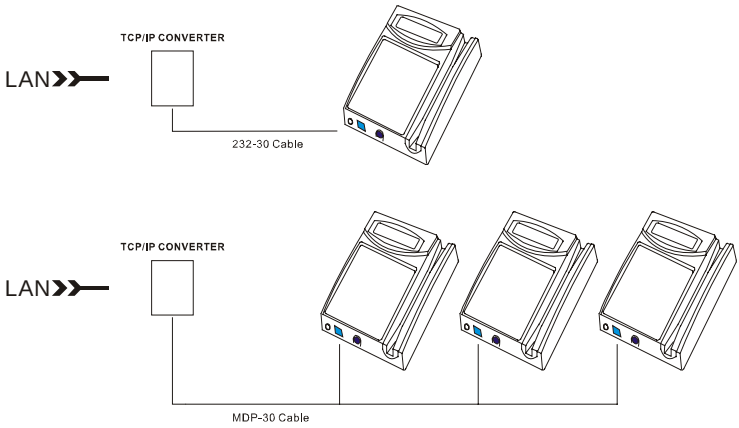
1. Read the Setup Card (or press&hold Exit-key and than power-on)
2. Input Password "3198" – date and clock blinking
3. Press Combined Func-key
4. Input "210"
5. Use forward or backward to change machine ID
6. Press to confirm and to exit

2.6 Link Modes

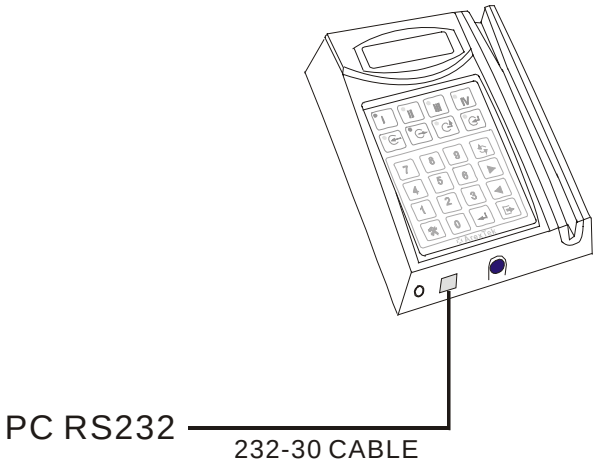
TCP/IP LAN Link (TCP/IP Embedded Model – TR3800xN)



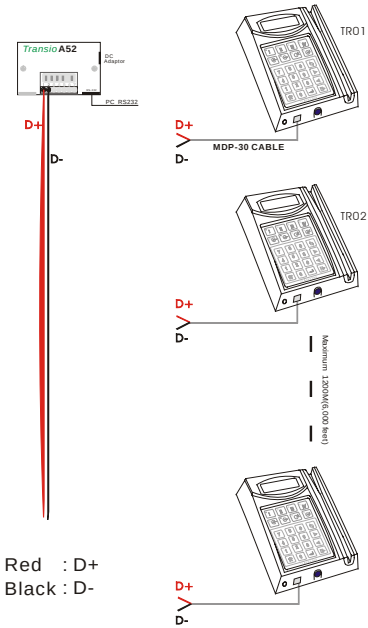
TCP/IP LAN Link (with external TCP/IP converter)



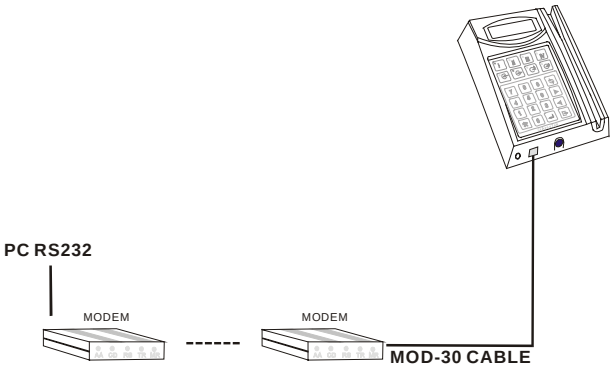
RS232 (maximum distance 15M)



Multi-drops RS485 ADDC (maximum distance up to 1,200M)



Modem Link

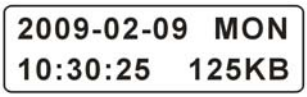


** The Modem of TR3800 side must be Initiated by InitiateMODEM.exe

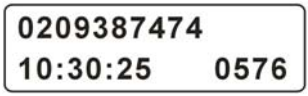
2.7 LCD Display And External Alarm/Access Controller

LCD Display:

When the TR3800 work normally, the LCD display shows date/week on the first row, the second row for time and space(free space) information.



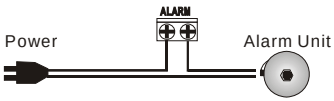
While reading the ID card, the display shows the ID number, time and storaged records for 20 seconds.



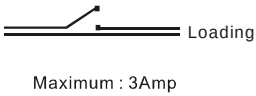
External Alarm and Access Controller:

The external alarm and access controller terminal are located on the right-side of mainboard. The relative information, please refer to 2.4, 6.2, 6.1.4 and 6.4.

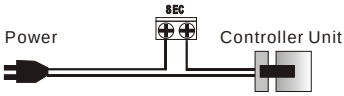
External Alarm Connection



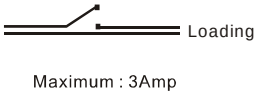
Circuit Diagram



Access Controller Connection



Circuit Diagram



2.8 UPS Battery

The TR3800 use Ni-Mh battery for UPS. When the AC power is shutted down , the UPS will take over the machine for operation within 1 second.

- Disable the battery if the machine is scheduled to be powered off for days
- UPS battery is recommended for those areas where have unstable power.
- For UPS life, the circuit charge the battery moderately, it need to take about 96-hour (4 days) for full charage
- For international aviation regulation, the UPS battery is disabled under transporation. Make sure the UPS switch(refer to 2.4) is enabled after supporting AC power.
- Once the battery is nearly exhausted, the machine have difficulty to boot up, a constant beep sound might occur, please disable the battery(refer to 2.4) temporarily before supporting AC power.

2.9 Using Setup Card

There are two methods to change the TR3800's setting values--the most formal method is by software(Communication Wizard), but some of simplier (or special) functions still can be set by Setup card (i.e. Date/Time, Alarm, Shift, Machin ID…). The former is not the subject of this paragraph and the precedence of Communication Wizard is prior to Setup card. When Setup card is disabled by software, Setup card is inoperative! (refer to 6.1.4)

Please follow the steps:

1. Read Setup Card.
2. Input password "3198" (factory setting) within 15 seconds
   If the password is correct, the display is blinking with date/time.
3. After changing the value , press to confirm and to exit.

There are 6 function keys on the keypad, each of them has its particular definition as belows:

--- Reset second to "00"

--- Forward / Selection Key

--- Backward / Selection Key

--- Enter

--- Exit

--- Tool and Combined Function Key (+ 3 keys)

** Press & Hold tool key and then power-on for hardware self-test. The machine ID, BIOS version, Baud Rate and Memory Disposal will be showed on display before testing.

201*	Set Password --- 4 digital keys
202	Date/Time
203	External Alarm --- Enable/Disable
204	Alarm Table
205	Shift Mode --- Mode 1/2/3
206	Access Controller --- Enable/Disable
207	Access Control Mode --- Mode 1/2/3
208	Clear All Records --- Yes/No

* The Password of Bios v6.6D is stored in permanent memory - It can't be reset/cleared by software(or by removing the Li-battery). Please make a note of your new password.

210*	Machine ID --- 001 to 255
211	Baud Rate --- 2400, 9600,19200, 38400 (bps)
212	Proximity Card Type ---10 digits/ 8 digits
213	Magstripe Card Track --- track 1,2,3
214	Truncate Leading --- 00 to 32
215	Code Length --- 02 to 16
216	Date Format On Display --- YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY
217*	Memory Disposal --- Standard or Cycled
218*	Set To Factory Default (Reset Completely)
219*	Time Base Setting --- Enable/Disable
220*	TCP_Time_Out --- 01 to 15 (seconds)

Notice:

1. Function 210 ~ 220 cannot be reset by software. It only can be reset by function 218.
2. Function 217(Memory Disposal) includes two modes: one for *standard,* the other for *cycled*. While memory disposal is switched to “cycled”, the memory will keep the last (newest) records that comply with the rule of “First In first Out”.
3. Function 218(Factory Default) is much extreme than software’s (Communication Wizard) reset, Function 218 will clear all records/all settings values and return to factory default settings.
4. While Function 219 is enabled, the machine will send synchronous clock at 00:10 to all machines.
5. The default value of Function 220(hardware tolerance) is “05” seconds.

Chapter 3 Software Installation

3.1 Communication Wizard Installation

1. Basic System Requirements

(1) PentiumII-500 or above (Pentium III, Pentium 4 ...)

(2) 128M Installed memory

(3) 500M hard disk space

(4) Microsoft Windows 95, 98(Se), Me, NT4, 2000, XP, Vista & Win7*

(5) CD-ROM 2X

(6) RJ45 10/100M /1000M LAN device or Serial port

(7) Mouse

2. Install Communication Wizard

Put the TR3800 CD in CD driver, and then the system will install all the demanded file automatically (about 40 seconds). If the auto-run can not work well, please execute “Asetup.exe”.

After finishing all procedures, shut down the computer and reboot again. You will find a “3800 Time-Recorder” , “InitiateModem”, ”Trancard” and “Staff“ in program files. And A “TR 3800 Time-Recorder” icon on Windows desktop.

If all the procedures comform to the default installation, the \Program Files\ TR3800 Time-Recorder” folder contains the files(folders) as below:

After installation, you might not find all above folders. Some folders have not being created until executing specific functions.

3.2 Copyright Declaration

TR3800 Communication Wizard is designed for Windows 95, 98, 98Se, Me, NT4, 2000, XP & Vista/7. Our Company – Arex Technology Corporation possess the authority and final modification right. Trying to modify (or disperse) the main program , parts and all attached link-files are forbidden!

* ArexTek is the trademark of Arex Technology Corporation

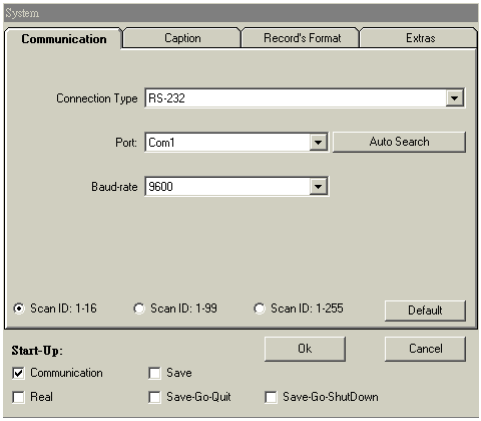
3.3 Getting Started

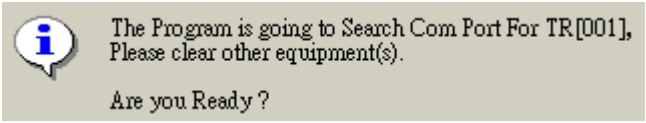
TR3800 Communication Wizard is thoughtful to user. It has embedded system-help interface in program. Most of functional description have shown on the screen. Any unreasonable event occurred to system, the program will notify operator by cautionary warning. Thus, we suggest the user doesn't rush to read the following chapters. Just try it! Any mistaken operation will not cause system confusion or hardware broken. -- the program will filter out and expunge all conflicting settings automatically.

This manual divided all main functions into single chapter. After blind-trying, a rough system framework has been built in your(user's) mind's eye. Then only read the chapters that you want to know further.

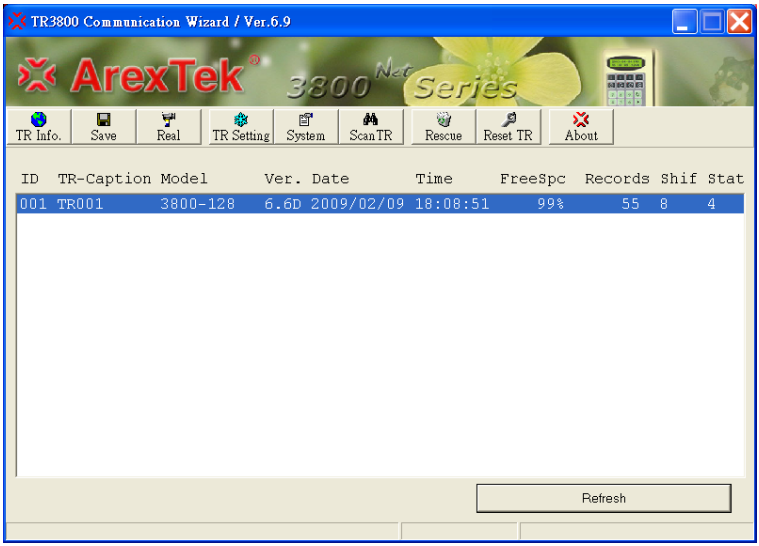
At the first time to execute main program-TR3800.exe. The function of *communication* is the starting point. Choose the correct connection type and port .

If you are not sure Com port, please click Auto Search. The program will detect the Com port automatically.



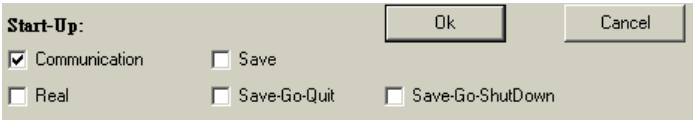


After entering the main menu, the TR3800 information showed on the screen. it includes --- ID,TR-Caption(Time-Recorder's caption), BIOS version, date, time, free space percentage, records, shift's alias and status's alias. The TR-Caption,Shif and Stat(status) are definable by system setting/caption (please refer to chapter 4.2 system setting /caption).



Chapter 4 System Settings

System settings allows users to set a Start-Up point. The system will run the start-up function directly while running the main program.



Save-Go-Quit will jump off the system in 3 seconds. Save-Go-ShutDown will turn the computer off in 9 seconds after finshing all procedures.

4.1 Communication

4.1.1 Connection type

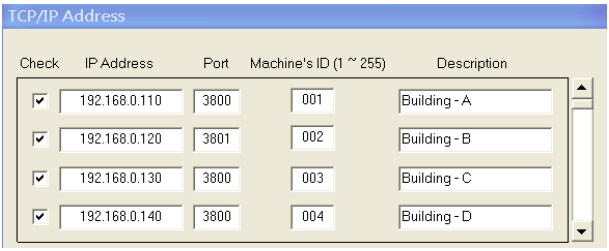
TR3800 offers 4 types of connection modes — RS232, Multi-Drops, Modem and TCP/IP.

(1) TCP/IP LAN – long distance communication, full LAN and WAN

(a). Supports 255 IP and full 65,535 IP ports

(b). Allows the same IP address, at the multiple IP ports

(c). Allows the multiple IP address, at the same IP port



(2) RS232 – 50 feet connection distance, for one machine only

(3) Multi-Drops – over 50 feet for one machine or some machines are linked via a serial port

(4) Modem – long distance communication, supports V.32, V.34, V34+, V90 communication protocol

(a) Offers 3 aux-mnemonic codes and a pause code

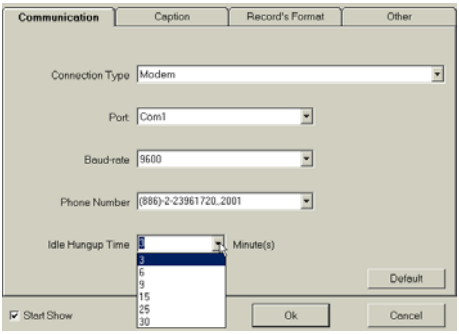
(b) Keeps the last 10 phone numbers

i.e. : **(886)-2-23961720,,2001**

The "(", ")" and "-" are aux-mnemonic codes.

(c) The "," is a pause code for 2 seconds, double "," for 4-second delay

Besides above mention, the system provides 6 levels of Idle Hangup Time in preventing from wasting phone charge. ***Most importantly, make sure to initiate Modem (that connected with the machine) by using the program of InitiateMODEM.***



- **Please refer to *Appendix E,F* for TCP/IP hardware configuration**
- ***If LAN quality is not stable, try to adjust TCP_BlueTooth_TimeOut value (from 5 to 50) – refer to Appendix A***

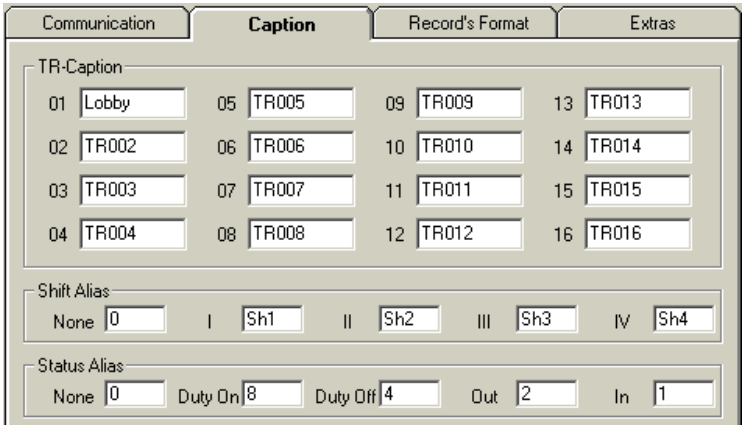
4.2 Caption

4.2.1 TR-Caption (maximum 10 bytes) refer to chapter 3.3

For even easier to remember machines' position. Creating a caption for specific machine is recommendatory. For example, the TR001 is located at lobby, then you can name TR001 as "Lobby". This function doesn't support putting a caption for ID that is above "016". If you want to name it , please refer to Appendix A.

4.2.2 Shift Alias (maximum 4 bytes) refer to 3.3

The "Shift" means the four keys on the machine - I, II, III, IV. The "Status" means - Duty-on, Duty-off, Out, Off. When the machine read a card, it will write the current shift and status code into memory. For easier to read the record, you can change default value "8", "4" , "2" , "1" to "Sh1", "Sh2", "Sh3", "Sh4". Here, the "None" means the shift/status light is setted on "No(off)".



4.2.3 Status Alias (maximum 4bytes)

The “Status” contains “Duty On”, “Duty Off”, “Out”, “In”. you can change the status-code -- “8”, “4”, “2”, “1” to “DuOn”, “DuOf”, “Out”, “In” or whatever you want.

4.2.4 The Interaction Between Caption/Alias And Other Functions

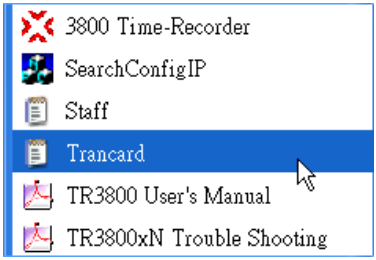
The Caption/Alias will affect TR-Info.(Time-Recorder’s information), Real(Real-time monitor) and Record’s format. Regarding the interaction, please refer to the table as below:

	TR Information	Real Time Monitor	Record’s Format
TR Caption	Affected	Affected	No-affected
Shift Alias	Affected	Affected	Affected
Status Alias	Affected	Affected	Affected

According to the above table, it shows the shift/status alias can affect the record’s format – Please continue to read next paragraph for more detailed.

4.3 Trancard File Edition

After installation of TR3800 Communication Wizard, you will find a file “Trancard.txt” in programs folder. This text file allows the card number changing into a new number(Staff_ID_No).




```
Trancard File Format:
Card_ID_No<Tab>Staff_ID_No
------------------------------
9999999999      1234567890
0001234567      FA20394897
0004567543      CG20173214
```

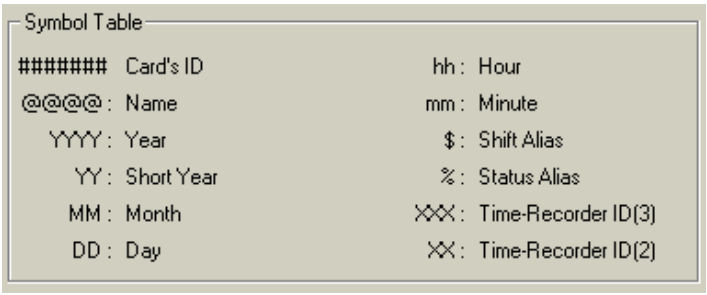
The precedence of “Trancard.txt” is superior to “Staff.txt”. (see 7.1 Staff File Edition)

Card Number→ Trancard.txt→Staff.txt

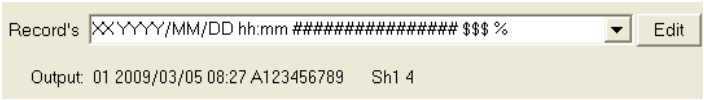
4.4 Record's Format

TR3800 provides 6 types of common-used record's formats. Each of them still can be modified into a brand-new format -- The system allows user to create the certain format to suit existent personnel management application. The factory setting are compatible with former models of 3001/3002/3001P/3500. If your application has been developed under above models, just keeps it on factory default.

As finishing edition, click Test function for output demonstration. Most importantly, all parameters ought to follow the Symbol Table. If not, the system will regards it as a constant.



In paragraph 4.2.2, we have changed the Shift Alias from "8" to "Sh1". Thus, don't forget to keyin three of "$$$".



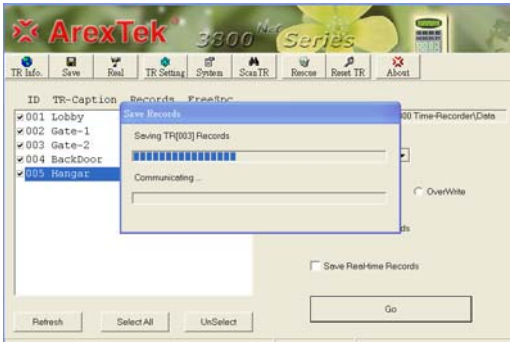
See above case -- the system regards the symbol "/" as a constant

4.5 Extras

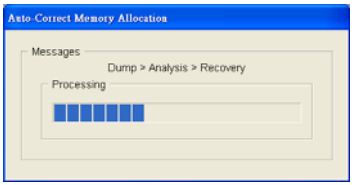
The Extras function includes only one item currently- Reset Password (4 bytes)—the default value is ”3198”.

Chapter 5 Records Saving

Data in Time-recorder's memory we call them -- "record" : To prevent getting confusion from the similar words such as "information", "message", "data", "parameter" and "setting value". Hereafter, we give a definition for "record" --- The data that are generated by reading employee ID cards.



While the machine get impact by surge voltage, the system detect the communication unstable or memory allocation was damaged. The system will activate the Auto-Correct function trying to fix the memory.

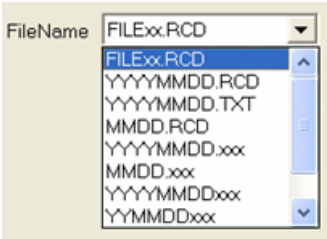


Regarding the file Path, please refer to Appendix A. Here, Save function don't allow the user to change file's path.

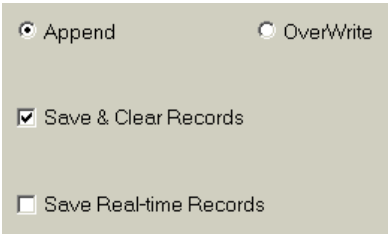
Running the program under Windows Vista/7, please disable/close the UAC(User Account Control), otherwise some of folders/files might not be found!.

The FileName supports 9 types of common-used name. The parameters' meaning are the same as symbol table (see paragraph 4.4). It also allows user to keyin file name by Manual Input.

Choosing Append to add new records at the end of existent file or using OverWrite to replace the old records. Save & Clear means save and then delete machine's records.



Don't worry about the records that received by Save & Clear -- Even though the machine's records are deleted, they still can be rescued by Rescue function (rescue cleared records). So, we recommend strongly – just keep it on default setting!



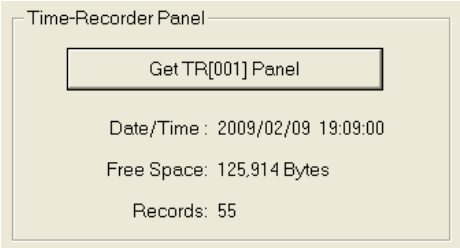
Selecting Time-recorders and then click Go, all machines you marked begin to transmit records to computer. After dumping all records, the FreeSpc (free space) return to 100%.

Chapter 6 Time-Recorder Settings

6.1 TR Settings and Clock Synchronization

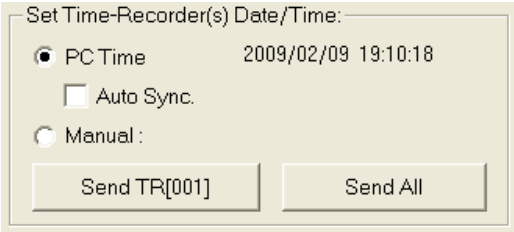
6.1.1 Time-Recorder Panel

The function of Time-Recorder panel is similar to TR Info, but the Free Space shows accurate space(not percentage). Click the Get TR[xxx] Panel to get the present information.



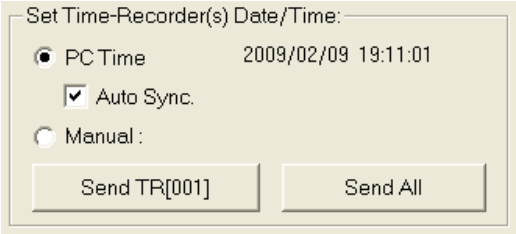
6.1.2 Set Time-Recorders' Date/Time

The system allows user to adjust the date/time base on PC clock or by manual input. The valid range of date is from 2000/01/01 to 9999/12/31.



6.1.3 Auto Synchronization

The system will send PC's clock to all machines before exiting the program. Trying to use NTP-time-server resources for keeping your PC's clock precise!



6.1.4 Advanced Settings refer to 6.4

The function contains [Setup Card Enable/Disable], [Printer Port Enable/Disable], [Card's Digits Limit], [External Alarm Controller Duration], [Access Controller Duration]. About the relative information, please refer to 2.7 The External Alarm And Access Controller, 6.2 Alarm Time and 6.4 Access Control.

When this function is disable, the machine's setting value cannot be changed by Setup card. The machine shows " SETUP DISABLED " while reading the Setup card

When this function is set on limited, the machine only allows to read a fixed digits card. If it set on limited/digits 10, the machine will not give you any response while reading a non-10-digit card. Thus, be careful to use this function!

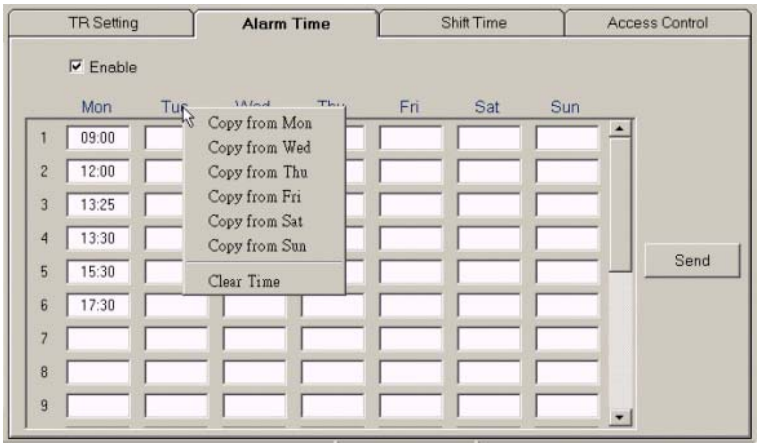
The external alarm controller can be set from 1 to 99 seconds. When it set on “20”, the “ALARM” terminal keeps “ON” (circuit short) for 20 seconds. (refer to 2.7 The External Alarm And Access Controller and 6.2 Alarm Time)

The access controller can be set from 1 to 99 seconds. When it set on “2”, the “SEC” terminal keeps “ON” (circuit short) for 2 seconds. (refer to 2.7 The External Alarm And Access Controller, 6.4 Access Control)

6.2 Alarm Time

refer to 6.1.4 Advanced Setting

TR3800 Time-Recorder embeds 112 sets of alarm-time. They were divided into 7 days (16 alarms for each day). When the clock “fall” to alarm-time, the internal speaker will generate a long-interval buzzer for 30 seconds. The duration of external alarm is definable by Ext. Alarm Duration. (refer to 2.7 The External Alarm And Access Controller 6.1.4 External Alarm Duration)



Choosing Enable and fill the blanks with alarm-time for Monday blanks. Then click Tue(Tuesday) to duplicate the contents from Mon…. and (if need,) modify some of them. Finishing the contents and send to machine.

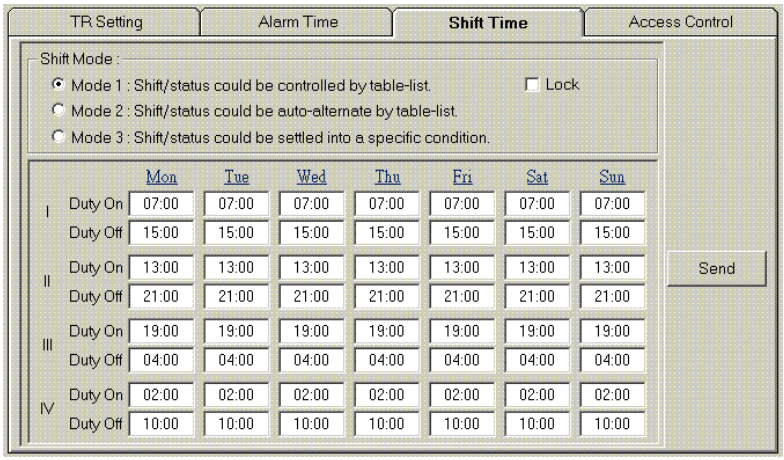
Moving the mouse pointer to a certain alarm-time blank and click right-key , the express tools will come out - undo, delete, copy, paste….

6.3 Shift Time

refer to 4.2.2 Shift Alias

6.3.1 Shift Mode

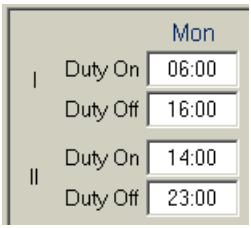
TR3800 provides four “shift”, two “duty”, one “out” and a “return” keys.


TR Setting
Alarm Time
Shift Time
Access Control
Shift Mode :
Mode 1 : Shift/status could be controlled by table-list.
Lock
Mode 2 : Shift/status could be auto-alternate by table-list.
Mode 3 : Shift/status could be settled into a specific condition.
Mon Tue Wed Thu Fri Sat Sun
I Duty On 07:00 07:00 07:00 07:00 07:00 07:00 07:00
Duty Off 15:00 15:00 15:00 15:00 15:00 15:00 15:00
II Duty On 13:00 13:00 13:00 13:00 13:00 13:00 13:00
Duty Off 21:00 21:00 21:00 21:00 21:00 21:00 21:00
III Duty On 19:00 19:00 19:00 19:00 19:00 19:00 19:00
Duty Off 04:00 04:00 04:00 04:00 04:00 04:00 04:00
IV Duty On 02:00 02:00 02:00 02:00 02:00 02:00 02:00
Duty Off 10:00 10:00 10:00 10:00 10:00 10:00 10:00
Send

* The way of duplication is as the same as Alarm Time

Mode1: The most flexible mode, the shift/status is controlled by table and still can be changed temporarily. To simply the situation and clarify the notion. The following example is only for Monday / 2 Shifts. The rest are with the same say.

i.e. Shift 1 : 07:00 - 16:00
Shift 2 : 13:00 - 23:00

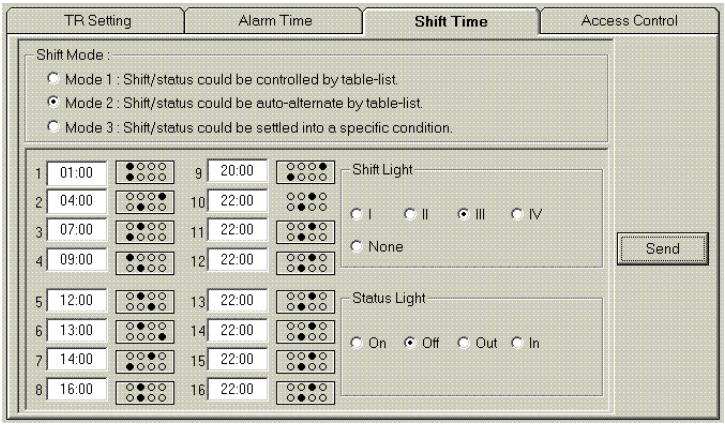


The principle is -- forward 1 or 2 hours for Duty On, exact time for Duty Off

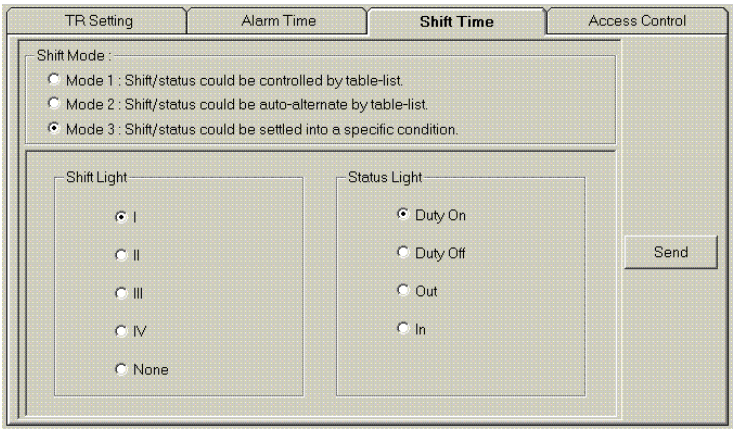
The employee need to press the Shift key only, the Status light will change automatically conforming to Shift-time table. If need, the Status light still can be changed temporarily. After reading a card, the Shift-time table will take over the system again.

Mode1/Lock: a simpler mode, the Shift/Status light is controlled by Shift-time table, the system doesn't allow the employee to change Shift/status light by pressing Shift/status key.

Mode2: Shift/status could auto-alternate by table-list. The system doesn't allow the employee to change Shift/Status light by pressing Shift/Status key.



Mode3: The most simplest mode, to prevent employee from pressing incorrect key. Shift-table is inoperative! The Shift/Status light are settled into a specific condition.

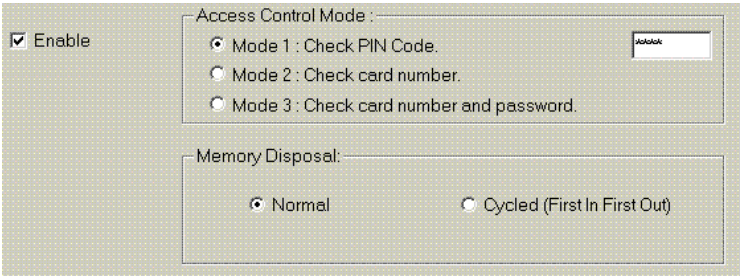


6.4 Access Control

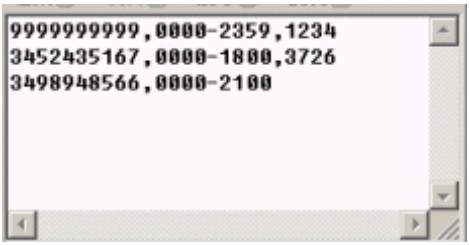
refer to 6.1.4 Advanced Settings

TR3800 provides 2,000 groups, wild-card edition and 3-level access control.

Mode1: Check PIN code only. The most simply security mode— input 4 digits for opening the door. The system drive access controller and shows “< ACC. GRANTED >“ on LCD display as input the correct PIN code.


Enable
Access Control Mode :
Mode 1 : Check PIN Code.
Mode 2 : Check card number.
Mode 3 : Check card number and password.
Memory Disposal:
Normal
Cycled (First In First Out)

Mode2: Check card number only. Click [Edit] to edit access control data (max. 2,000 records) by Windows Notepad . And the format must match with the format of “card number” + ”,” + ”available period” + ”password”. See the illustration as belows:



According to above illustration, while reading the card “3452435167” at period of 00:00-23:00, the machine willl drive the door. If not at **avilable period** the LCD display shows “ < DENIED ! >”.

Mode3: Check card number and password.

Refer to above illustration, while reading the card “3452435167” at period of 00:00-23:00, the system will ask user for password. If the password is correct –“3726”, the system will open the door. If not, the display shows “ < DENIED > ” only.

If you want to download the contents from the machine, just click [Restore] function— this funciton will dump all security data from the machine and write back into security file - “Acctrlxxx.txt”. The [Restore] function will correct all of erroroneous format in “Acctrlxxx.txt”.

See the tips:

1. If the security data lack available-period and password. The system will regard the available-period as “0000-2359”.
2. For more effective to use free memory, the memory is divided into 20 blocks for access control. When the security data (become more and more) need to cross the next block. The system will warn you – “Memory Disposal Overlapped! Please Save & Clear Records Firstly.”. Conversely, while the security data is getting less, system will also release free memory automatically

3. If communication failure on [Send] function, please check all format of the security file - “Acctrlxxx.txt”.
4. Using the [Restore] function to retrieve back security data from the machine.

6.4.1 Memory Disposal

This function includes two items: one for *standard,* the other for *cycled*. While switching to cycled mode, the memory will keep the last (newest) records that is complied with the rule of *"First In First Out"*.

6.4.2 How To Use Wild Card Edition

By using wild card edition, the Access Control can control over 2,000 staff (employees).

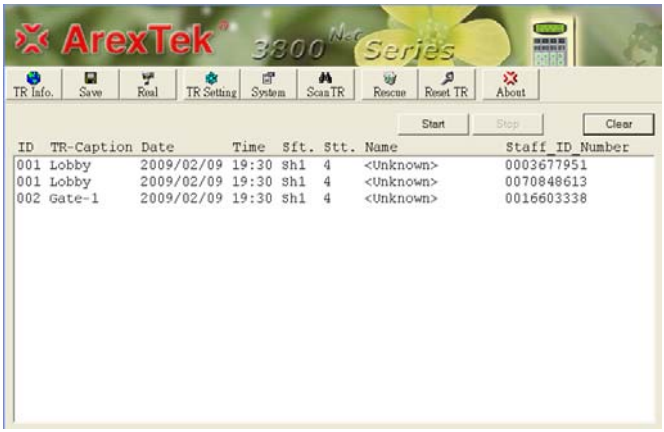
i.e. "A12345783" and "A12345784" are replaced by "A1234578"

I t means a "A1234578" includes "A12345783" and "A12345784"

A123456783 =>	A12345678
A123457784 =>	

Chapter 7 Real-time Monitor

The Real function offers the ability to manage about 20,000 persons and get the users' name within 0.1 second. And the data will be saved in (\Programs files\TR3800 Time-Recorder\Real) immediately. It contains ID, TR-Caption, Date, Time, Shift, Status, Name and Staff_ID Number. Executing the Real function, the on-the-spot is broadcast live.



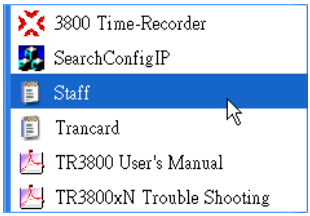
Before adding the staff name in file "staff.txt", the Name field shows "Unknown" as above.

Some of word processors might change the "staff.txt" to "staff.txt.txt" after edition -- just delete a needless ".txt " !!!

7.1 Staff File Edition

To check the C:\Program Files\TR3800 Time-Recorder folder and find the "Staff". The file's contents is as below:

The program offers a sample text file for "staff.txt" –




```
Staff File Format:
Staff_ID_No<Tab>Staff_Name
--------------------------------
1234567890      Steve Williams
```

Staff_ID_No(maximun 16 bytes), a separate code, <Tab> key, and Staff_Name (maximun 16 bytes). You can add new Staff_ID/Staff_Name into "staff.txt".

(1). Open the file "staff.txt" by any of word processor program

(2). Input a staff_ID number, a <Tab> key and staff name

(3). save & close it

```
Staff File Format:
Staff_ID_No<Tab>Staff_Name
--------------------------------
1234567890      Steve Williams
0003677951      Andrew Kim
0070848613      Bill Freeman
0016603338      Michelle Ref.
```

Re-execute the main program and choose [Real] function. You can find Name messages as below:

7.2 Real-time Monitor And Record Saving

TR3800 bring in a new Mirror-Compression technology. While reading a card, it will make a compressed copy for Real-Time-Monitor's register. As Real is executed, the machine will dump all data to computer and move the index to current memory address.

Even if, the Real-Time-Monitor has it own register, but it is controlled by original records. When the original is cleared, The Real-Time-Monitor lose its reference "indicator". In short, if recorders is cleared by Save function, the data for Real-Time-Monitor will be cleared as well.

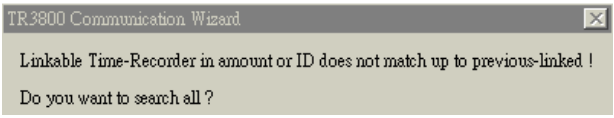
Save & Clear Records	>>>	Delete real-time data
Dump Real-Time Data	>>>	No harm original records

7.3 Real-time Monitor Under Modem Connection

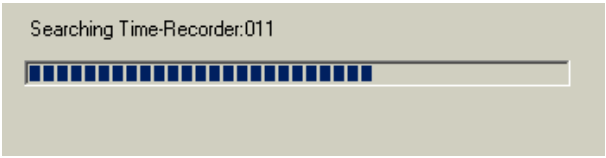
On paragraph 3.1, We mentioned about Modem-connection mode. This mode offers 3,6,9,15,25 and 30 minutes Idle Hangup time. When the system (phone line) is Idle for certain minutes, the system will hang-up the phone automatically. But, this function is not available for Real-Time-Monitor. Because the both sides(PC and the machine) have to communicate momentarily for confirming the system is work well. So, after dumping all records by Real-Time-Monitor we recommend -- (1) Choose other functions or (2) Hang-up the phone or (3) Exit the program

Chapter 8 Scan Time-Recorders

While executing the program, the system will scan the machines automatically. If the amount (or machine's ID) of machines are not equal to the previous connection. The system will give you a warning –**" Linkable Time-Recorder in amount or ID does not match up previous-linked ! Do you want to search all ? "** .


TR3800 Communication Wizard
Linkable Time-Recorder in amount or ID does not match up to previous-linked !
Do you want to search all ?

For speedup on performance, when the program is running, the system only scan machines they have been recognized. When the new machine is added on the line. Please run Scan Time-Recorders.



Be sure all machines are in different ID, otherwise those units with the same Machine ID can not be found!

Chapter 9 Records Rescuing

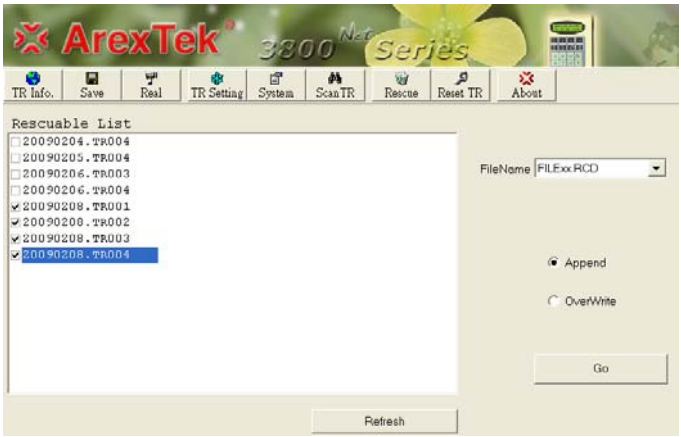
While executing Save & Clear Records once, the system will duplicate a copy for backup.

Sometimes, operators intend to export the record to personnel attendance application for further process. And they found some records are lost! To make up operators' indavertence fault. The system keeps the rescuable records within 180 days. You don't need to care the rescuable file. It will be deleted automatically under the rule of "First In - First Out".

Rescuable List Format:

YYYYMMDD.TR001 → Year+Month+Day.machine's ID

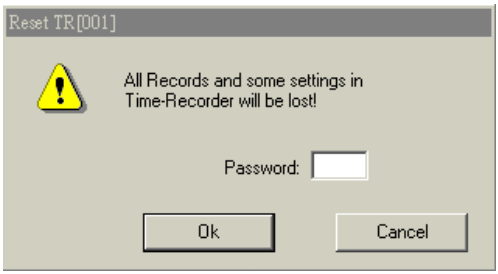
Double-click the rescuable item and then press Go**,** the system will rescue all records you selected.



Chapter 10 System Reset

refer to 4.5

When the machine get impact by surge voltage, The unstable electricity might force the memory to close up the address register. If this unexpectable mistake occurred to machine, it probably damage recorders/data of the machine. --- Try to save all records (if it possible) and run System Reset .



The functions 210-220 will not be reset/cleared by software. If you intend to reset to “Factory Default”, please use Setup Card Function 218 – (refer to 2.9)

Appendix A Records Path And Setting Value

While installing the TR3800 Communication Wizard under default procedure, the system will create a "C:\Program Files\TR3800 Time-Recorder" folder. All files will be stored under this folder. The paths of all files are as belows:

Item	Function Name	Path
1	Main Program	\Program Files\TR3800 Time-Recorder\TR3800.exe
2	Auto-Correct Memory(sub-exec.)	\Program Files\TR3800 Time-Recorder\Mapping.exe
3	Search&Config IP	\Program Files\TR3800 Time-Recorder\SearchConfigIP.exe
4	Initiate Modem	\Program Files\TR3800 Time-Recorder\InitiateModem.exe
5	Trancard File	\Program Files\TR3800 Time-Recorder\Trancard.txt
6	Staff File	\Program Files\TR3800 Time-Recorder\Staff.txt
7	Records File(s)	\Program Files\TR3800 Time-Recorder\Data\..
8	Real-time Data	\Program Files\TR3800 Time-Recorder\Real\..
9	System Settings	\Program Files\TR3800 Time-Recorder\SYSINI\..
10	Rescuable Backup	\Program Files\TR3800 Time-Recorder\Rescue\..
11	Security File(s)	\Program Files\TR3800\ Time-Recorder\ACCTRL\Acctrlxxx.txt

If we want to change some settings that main program does not support (i.e. Records path), please edit – "**\Program Files\TR3800 Time-Recorder\SYSINI\".** The folder includes general settings - "TR3800.INI" . All the phrases are complied with the rules of Windows INI standard. The following sections are the descriptions for Caption, Records' Path and TCP Recorder ---

[Name]

TR020=Gate 1

[Path]

DataPath=C:\Program Files\TR3800 Time-Recorder\Data

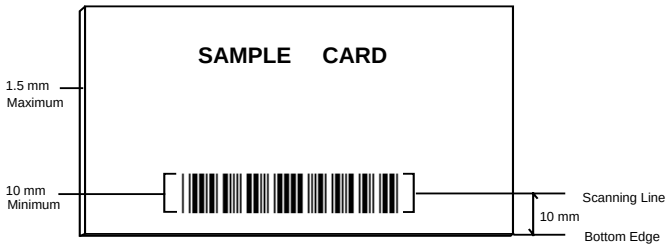
[TCP Recorder]

TCP_BlueTooth_TimeOut=5* (from 5 to 50)

*Normally, average ping_speed/2 is acceptable and safe TimeOut value

Appendix B How To Make A Standard Bar Code Card

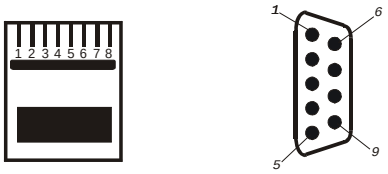
1. Make an ID card with barcode label.
2. The horizontal center of the barcode is 10 mm from the bottom edge.
3. The thickness of ID card is 1.5 mm. (maximum)
4. The height of barcode label is 10 mm. (minimum)



Appendix C Communication Cable's Pin Assignment

Cable: 232-30 (for RS232)

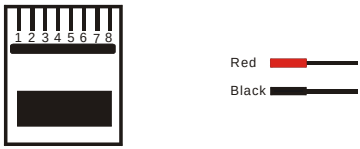
8P8C DB9P(female)



Pin 4 ---------- Black ---------- Pin 5
Pin 6 ---------- Orange ---------- Pin 2
Pin 7 ---------- Red ---------- Pin 3

Cable: MDP-30 (for Multi-drops)

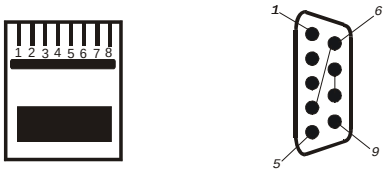
8P8C



Pin 1 ---------- Red ---------- D+
Pin 6 ---------- Black ---------- D-

Cable: MOD-30 (for Modem)

8P8C DB9P(male)



Pin 4 ---------- Black ---------- Pin 5
Pin 6 ---------- Orange ---------- Pin 3
Pin 7 ---------- Red ---------- Pin 2

Appendix D Warning Messages

TR3800 equips with UPS system for normal use after a loss of AC power. It supports about 4.5-hour energy in working and shows warning message as UPS is activated.

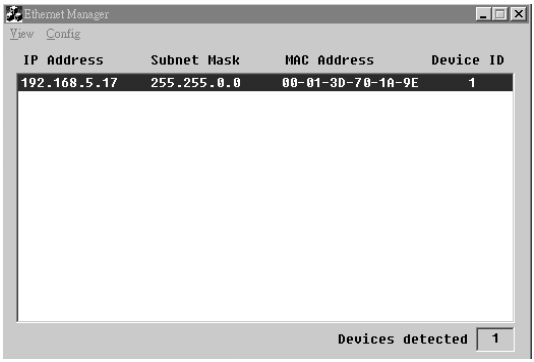
After reading a large amount of card, the machine's free memory will be getting low constantly. When the free memory is less than 10Kbytes(500 records remains), the display gives a warning message and makes two-beep sound while reading the card.

While the machine's memory space is used-up, the display shows "MEMORY OVERFLOW", please save and clear records!!

Appendix E Search And Config TCP/IP Device

The models of TR3800xN series equip with a embedded TCP/IP device. Using the Ethernet Manager program to define the IP Address and related settings.

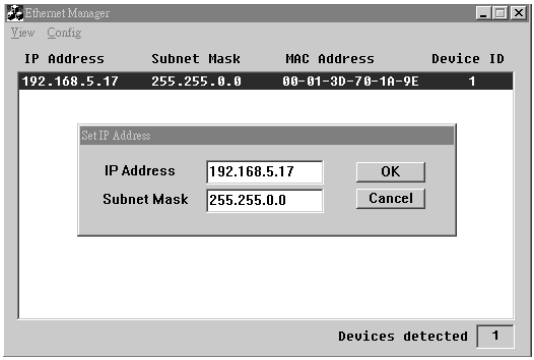
1. Install Communication Wizard software (CD disk auto-run)
2. Connect RJ-45 socket with Lan wires
3. Run **SearchConfigIP** in Program folder



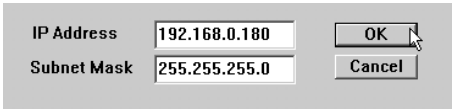
- **If find nothing, try to disable Windows Firewall temporarily (i.e. Windows XP & Vista/7)**

4. Choose Config/IP Address for Express Settings Mode:

   Config IP Address & Subnet Mask --

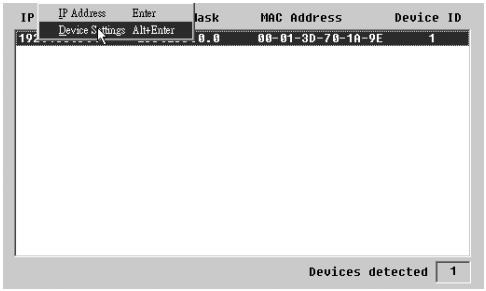


i.e. Change to IP: 192.168.0.180 Subnet: 255.255.255.0

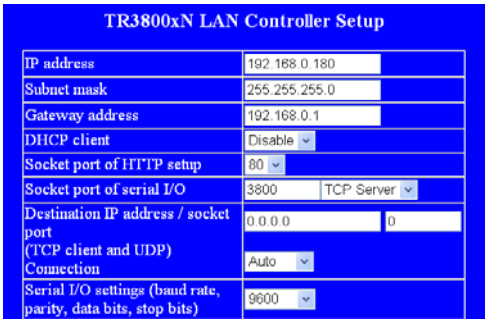


- Waiting for 3 seconds!
- **Be sure IP-Address and Subnet-Mask match with your Network, otherwise the program cannot enter Device Settings Mode**

5. Choose Config/Device Settings for Device Settings Mode



(skip password!)

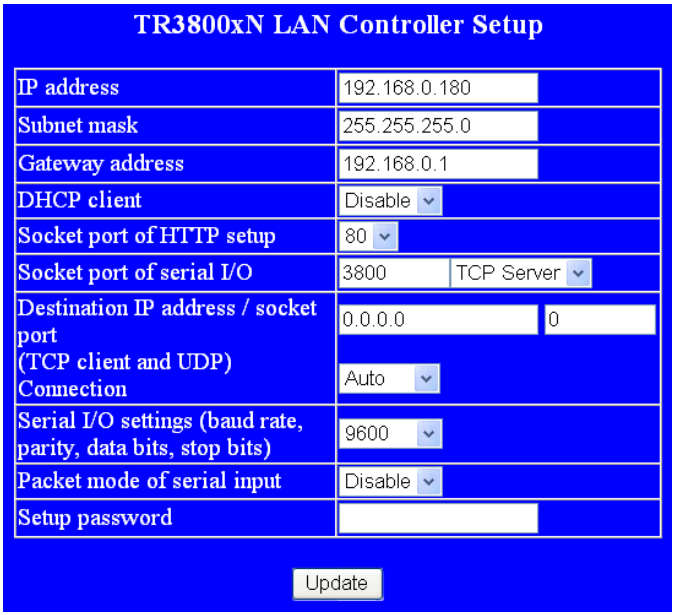


6. Be sure [Socket Port of serial I/O] is “3800”

Be sure [Serial I/O Settings] is “9600”

-- Don’t forget to Update !

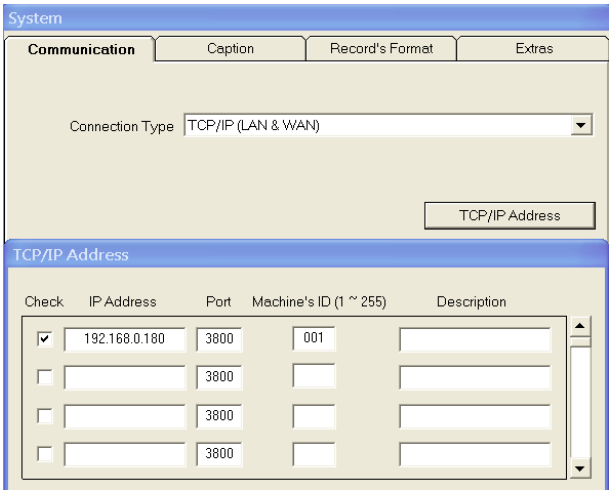
7. Re-login for double check –



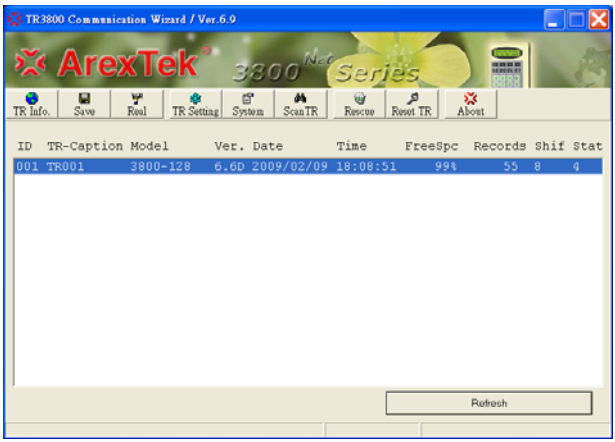
8. Quit the program and **re-enable Windows XP/Vista/7 firewall**

9. Run TR3800.exe (TR3800 Time-Recorder icon on windows desktop) And Change [Connect Type] to [TCP/IP LAN & WAN]:

   **** Fill blanks with IP Address and Tim-Recorder ID ****



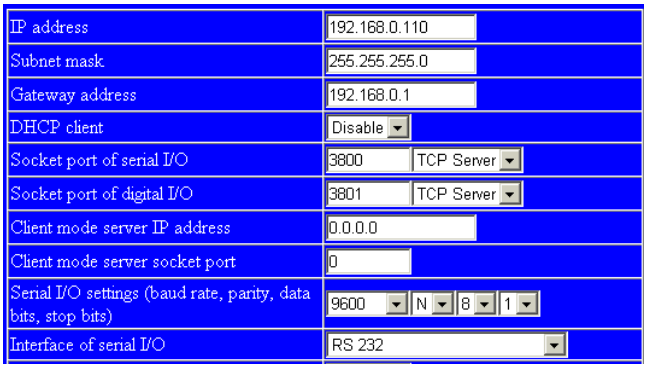
10. Find the TR-Information's content, the installation is successful!



Appendix F How To Use External TCP Converter

The TCP/IP connection function is suitable for most brands of TCP converter , i.e. Lantronic, Moxa, Sena, E-net, ICP, Trycom, etc.

The setting methods of different TCP converters with different ways. Please refer to their user's manual. To study all functions are unessential, just care the following items:

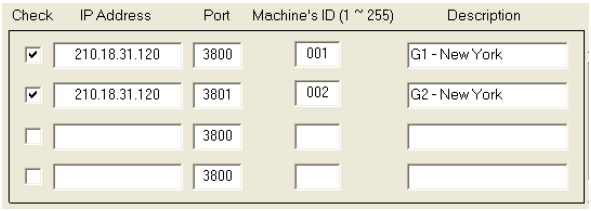


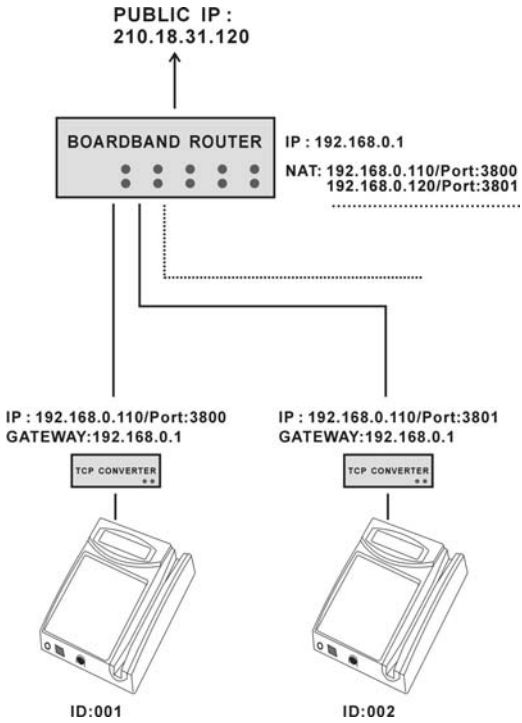
IP address	192.168.0.110
Subnet mask	255.255.255.0
Gateway address	192.168.0.1
DHCP client	Disable
Socket port of serial I/O	3800 TCP Server
Socket port of digital I/O	3801 TCP Server
Client mode server IP address	0.0.0.0
Client mode server socket port	0
Serial I/O settings (baud rate, parity, data bits, stop bits)	9600 N 8 1
Interface of serial I/O	RS 232

1. IP Address (192.168.0.110)
2. Subnet Mask (255.255.255.0)
3. IP-Port (3800)
4. Gateway (192.168.0.1 – if it need to go across other subnet, define the Gateway Address is necessary!)
5. OP_Mode = TCP Sever
6. Serial Interface = RS232 or RS485(ADDC)
7. Serial Baud Rate = 9600,n,8,1 (RTS/CTS=none)
   Baud Rate need to match up to TR3800's setting (refer to 2.9)

Appendix G How To Connect TR3800 Via Public IP

The Communication Wizard supports full IP-Port range for using under WAN. While using a single Public IP to connect with many Time-Recroders, IP-Port setting is most important ! See illustration as belows:





* The phrase of “NAT” is equal to “Virtual Server” or “Local Server”

Lan Device Trouble Shooting for TR3800xN

Q1: The *SearchConfigIP*(Ethernet Manager) can't find any TR3800's IP address?

Ans: Please disable the Windows Fire Wall (or Anti-Virus software) temporarily.

Q2: The *SearchConfigIP* find/detect IP address, but it can't enter *its Config/Device Settings* function?

Ans: Computer and TR3800's IP addresses are not under the same sub network!

→Try to Change TR3800's IP address to match with PC's sub network.

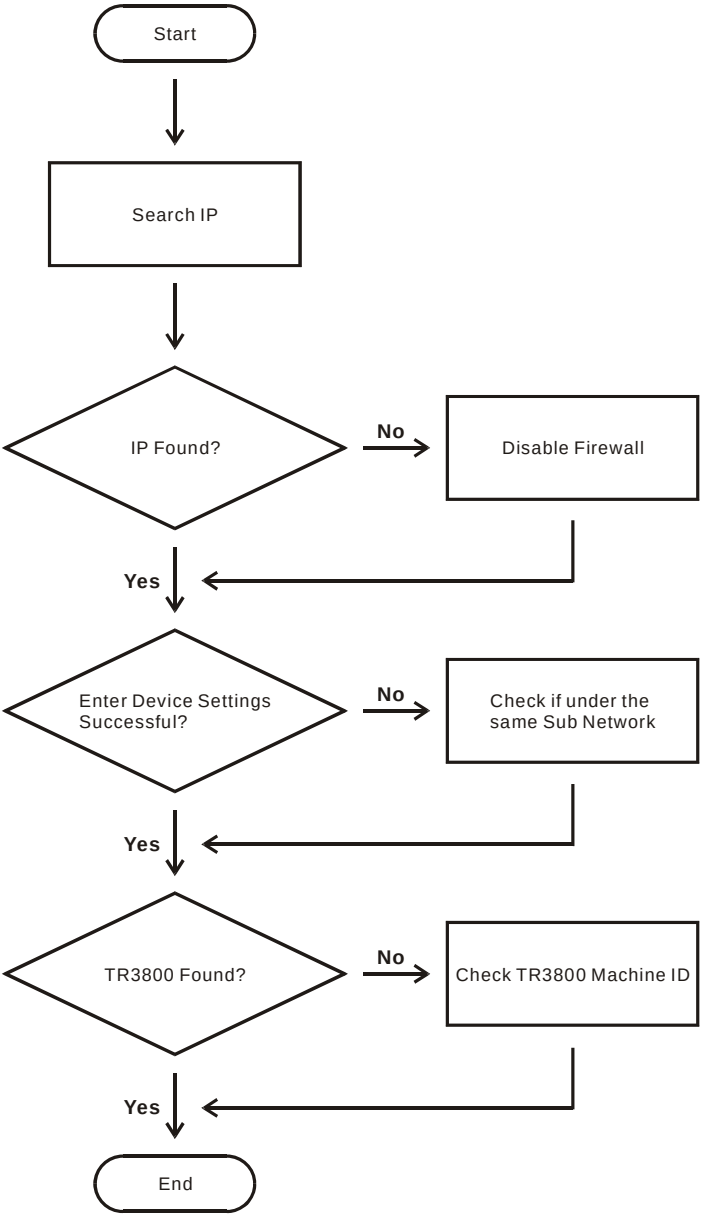
*** Using Windows DOS command-"ipconfig" to check PC's IP information.

Q3: *SearchConfigIP* can enter the *Config/Device Setting,* but the TR3800.exe(main program) can't connect/get the TR3800?

Ans: *Time-Recorder's ID* of *TCP/IP Address* Table don't exist!

→ Try to Set the Machine ID by using Setup Card (func. 210) or change *Time-Recorder's ID* of *TCP/IP address* Table.

*** Lan Device ID (Lan ID) of Ethernet Manager is not the Machine ID of TR3800**!**


Start
Search IP
IP Found?
No
Disable Firewall
Yes
Enter Device Settings Successful?
No
Check if under the same Sub Network
Yes
TR3800 Found?
No
Check TR3800 Machine ID
Yes
End

TR3800 Time-Recorder & Access Control

3800010530